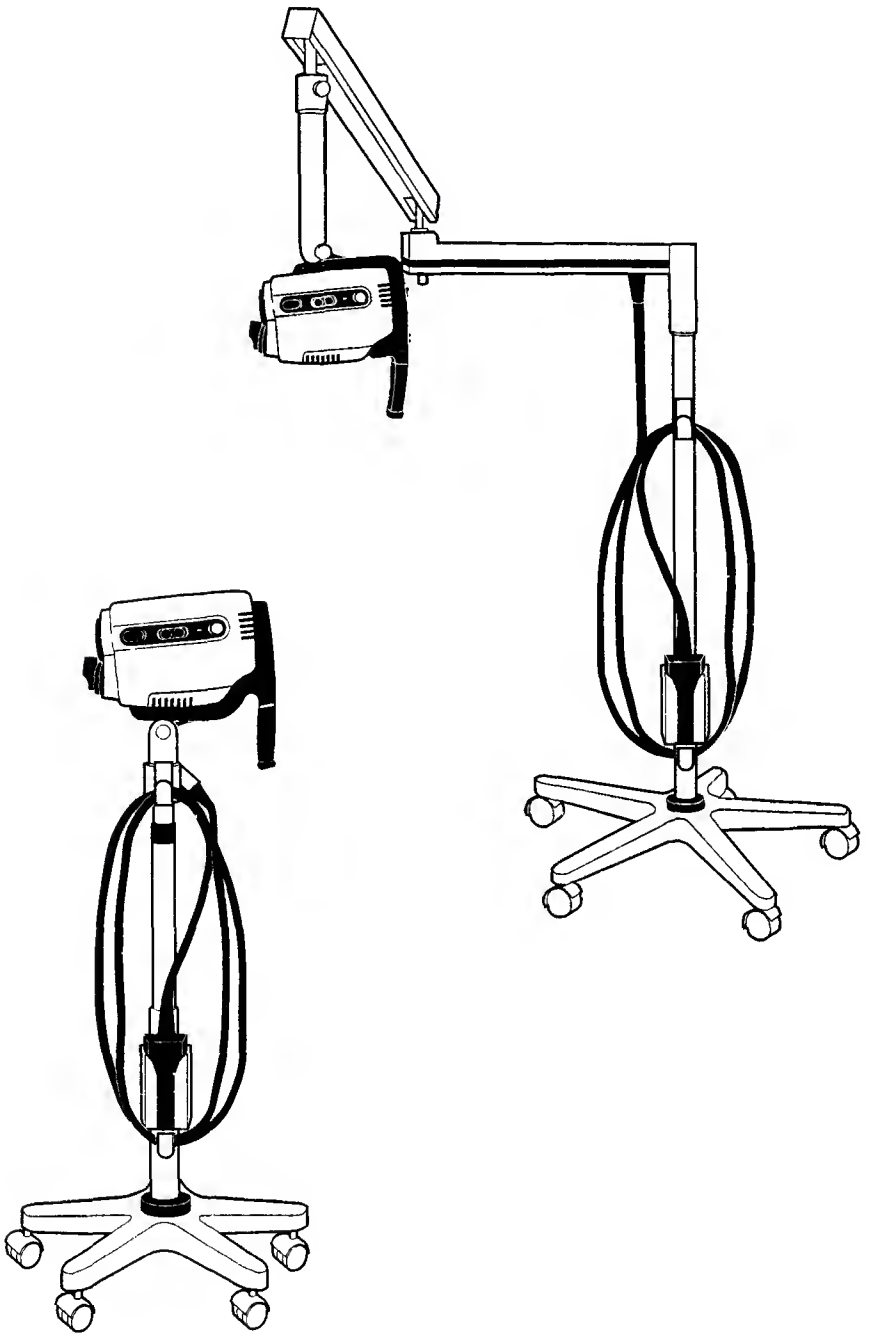
Women's Health

Stand Alone Colposcope

Welch Allyn™

VideoPath™ Colposcope



Operating Instruction Manual

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Thank you for purchasing the Welch Allyn VideoPath Colposcope. Follow the operation and maintenance instructions found in this manual and your VideoPath Colposcope will provide you with many years of reliable service. Please read these instructions thoroughly before attempting to use your new VideoPath Colposcope.

CAUTION: Federal law restricts sale of this device to, or on the order of, a physician or other appropriately licensed medical professional.

WARNING: Users of this equipment should be thoroughly trained in the appropriate medical procedures. Furthermore, they should take the time to read and understand these instructions before performing any procedure. They should also read and understand the instructions for any other equipment used in conjunction with the VideoPath Colposcope (i.e. electrosurgical generators). Failure to do so may result in injury to the patient and/or damage to the VideoPath Colposcope.

IMPORTANT: The material outlined in this manual should be reviewed and understood prior to operation of the equipment.

INDICATIONS FOR USE: For examination of the tissues of the vagina, cervix, and external genitalia, to investigate, by means of magnification, abnormal cervical cytology or suspicious lesions of the lower female genital tract. Also used for corresponding biopsy and treatment, when indicated.

NOTE: This device complies with the guidelines of the American Conference of Governmental Industrial Hygienists' threshold limits values for ultraviolet radiation for exposure time and distance consistent with the intended use of this device.

Conventions

WARNING: Warnings alert the user to the possibility of serious injury, death, or other adverse reaction associated with the use or misuse of the device.

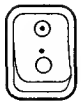
CAUTION: Cautions indicate a potentially hazardous situation that, if not avoided, may result in minor or moderate injury and/or damage to the equipment. They also alert against unsafe practices.

NOTE: Notes provide supplemental information to the text and indicate a potentially hazardous situation, which, if not avoided, may result in property damage. They also highlight important information on the use of this equipment.

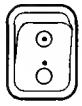
General Precautions

- For safety, the VideoPath Colposcope should only be connected to either Welch Allyn VideoPath model number VLX-10 or VLX-20 Light Sources.
- The VideoPath Colposcope should not be operated in the presence of flammable or explosive gases or chemicals, or installed in areas where these materials are commonly used.
- Keep all liquids away from electrical equipment to avoid the possibility of shock and instrument damage.
- Occasionally inspect the umbilical cord and plug for signs of cuts, abrasions or other damage.
- The VideoPath Colposcope should never be stored or operated in areas where it could get wet or could be exposed to any environmental conditions such as extreme temperature or humidity, direct sunlight, dust, etc.
- The illumination light is extremely bright. DO NOT stare directly into illumination beam director when the Light Source lamp is lit.
- All service to the VideoPath Colposcope must be performed by Welch Allyn or by an authorized repair center.
- VideoPath Colposcope user should adhere to the operating conditions found in this manual and the applicable Light Source manual. Otherwise, instrument damage may occur and/or operator/patient safety may be compromised.
- There are no user serviceable parts in this unit or in its accessories. Any attempt to disassemble and/or repair this unit will result in voiding of the warranty.
- Do not immerse any portion of the VideoPath Colposcope.

Symbols



On: Power: Connects to the low voltage supply.



Off: Power: Disconnects from the low voltage supply.

Caution: Consult user's manual for additional information.

Warning: Consult user's manual for additional information.

Warning: High-intensity light

Summary of Warnings and Cautions

WARNING: All video monitors and peripheral equipment used with this instrument must be IEC 601-1 (or UL 2601) listed to comply with medical electrical safety guidelines. If not IEC 601-1 (UL-2601) listed, the monitor/peripheral equipment should be positioned outside of the 6-foot patient contact area. Please contact Welch Allyn for more information.

WARNING: Total system risk current should not exceed 50µA. An isolation transformer is required if the total system risk current exceeds 50µA when accessories are interconnected.

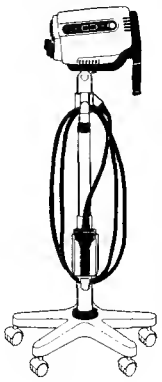
CAUTION: The Video Colposcope should be transported by grasping the pole. The unit can be damaged if it is transported while holding the handle.

CAUTION: DO NOT clean the illumination olens with alchohol.
DO NOT touch optical or illumination lenses except as described in Maintenance section of this manual.

Components

VideoPath Colposcope

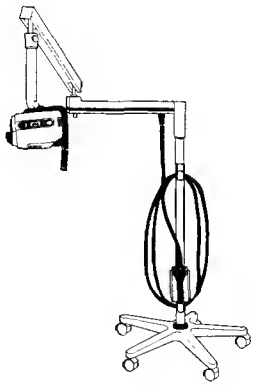
The video colposcope includes ...



VideoPath Colposcope and vertical stand models 88100/88110

Vertical stand hardware kit:

- Allen wrench
- Mounting cap

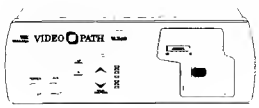


VideoPath Colposcope and swing arm stand models 89100/89110

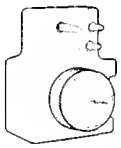
Swing arm hardware kit:

- Allen wrench
- Mounting washer
- Bolt

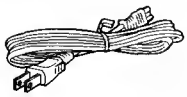
VLX-10/VLX-20 Light Source Includes:



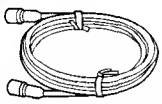
40500 Light Source (VLX- 10)
45500 Light Source (VLX-20)



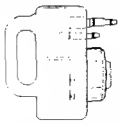
45510 Water Bottle (Not applicable for VideoPath Colposcope)



761076-0 Power Cord

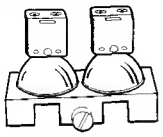


45512 S-Video Cable

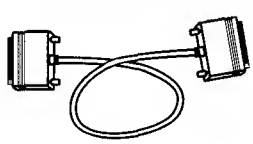


45520 Cleaning/Disinfection Bottle (Not applicable for VideoPath Colposcope)

Optional Accessory



04060 Lamp Replacement Assembly

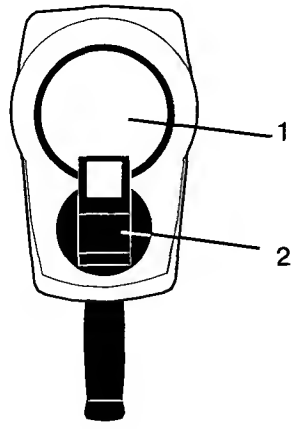


65158 RS232 Interface Cable

NOTE: Only accessories and components indicated in this manual are to be used with the Welch Allyn Video Colposcope system.

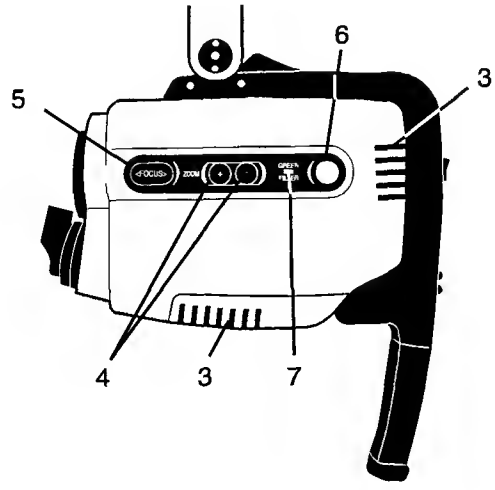
Nomenclature

VideoPath Colposcope Front View



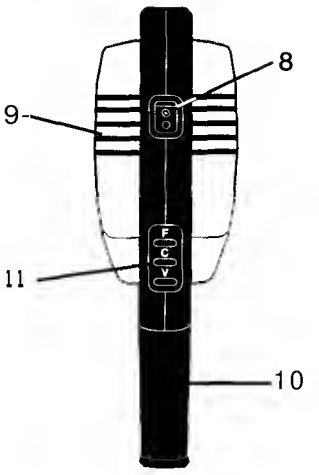
Name	Function
1. Objective lens	The lens that establishes the magnification and field of view.
2. Illumination beam director	Directs light beam.

VideoPath Colposcope Side View



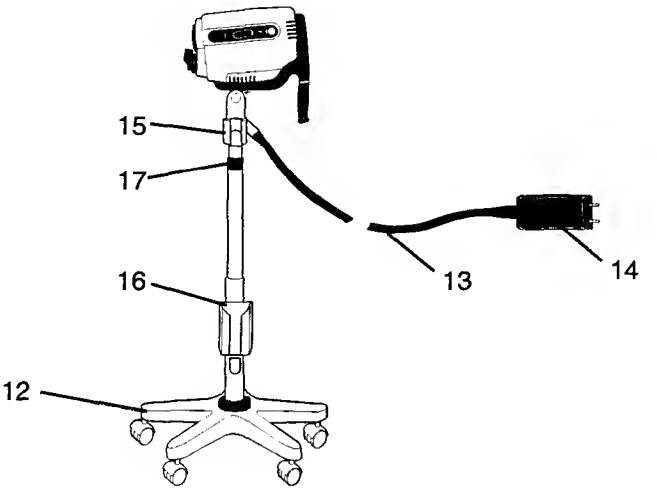
Name	Function
3. Ventilation slots	Allow air to enter and leave unit, cooling internal components.
4. Zoom control button	Pressing + or - increases or decreases magnification accordingly.
5. Focus control button	Pressing < or > adjusts the focus.
6. Green filter button	Pressing turns the electronic green filter on or off.
7. LED indicator	Illuminates if the electronic green filter is on. Flashes during activation or deactivation.

VideoPath Colposcope Back View



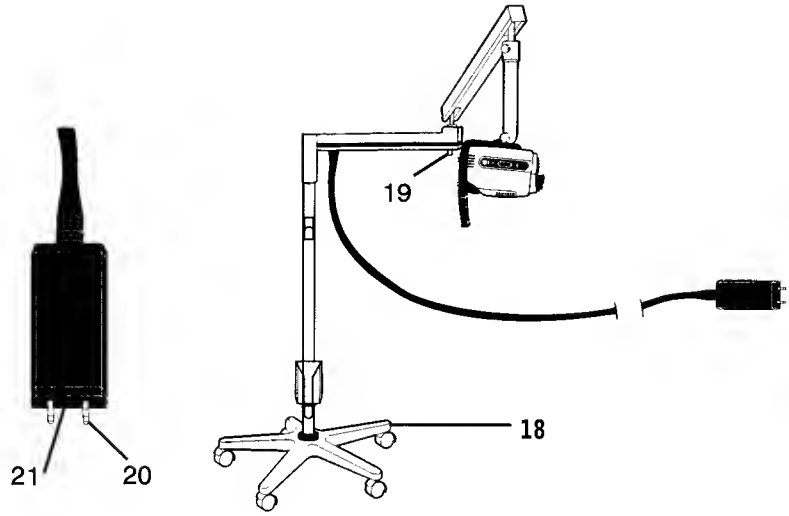
Name	Function
8. Power switch	Power control for the VideoPath Colposcope.
9. Ventilation slots	Allow air to enter and leave unit, cooling internal components.
10. VideoPath Colposcope handle	For positioning the colposcope in the proper up/down, left/right position.
11. Remote video function buttons	Allow use of remote video printer functions. (When equipped. Models 88110, 89110 only)

Vertical Pole Stand



Name	Function
12. Vertical rolling base stand	Allows mobility with 5-caster base, including two locking casters.
13. Colposcope connector terminal cord	Couples colposcope camera to colposcope terminal connector.
14. Colposcope connector terminal	Couples colposcope to Welch Allyn Light Source Model VLX- 10 or VLX-20.
15. Colposcope connector terminal hook	Storage hook to support umbilical cord.
16. Colposcope connector terminal hanger	Storage hanger to support colposcope connector terminal.
17. Height adjustment ring	Allows vertical movement and locking of stand at desired height; vertical height adjustment 36"-46" (91.4 cm to 116.8 cm).

Swing Arm Stand

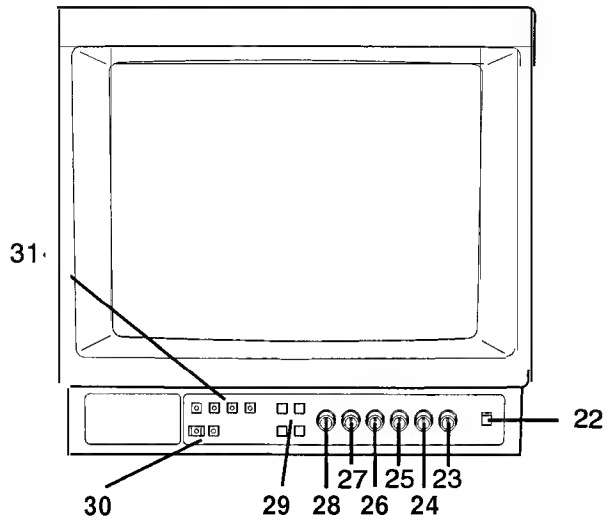


Name	Function
18. Swing arm rolling base stand	Allows overhead positioning of the instrument with 5-caster weighted base, including two locking casters; vertical height 29.5" to 49.5" (74.9 cm to 125.7 cm).
19. Stop pin	Prevents positioning of colposcope in a configuration that limits lateral adjustment.
20. Light Guide	Transmit light from the Light Source lamps to and through the illumination beam director.
21. Electrical Contacts	Electrical connection from the light source to the VideoPath Colposcope.

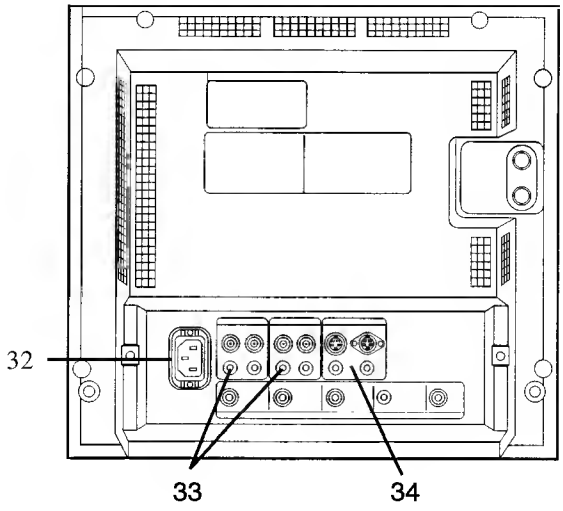
Monitor

NOTE: The following is a brief overview of the nomenclature of the Sony PVM-1350 Video Monitor. For detailed instructions, please refer to the operation manual that is provided by the manufacturer.

Front Panel of Monitor



Back Panel of Monitor

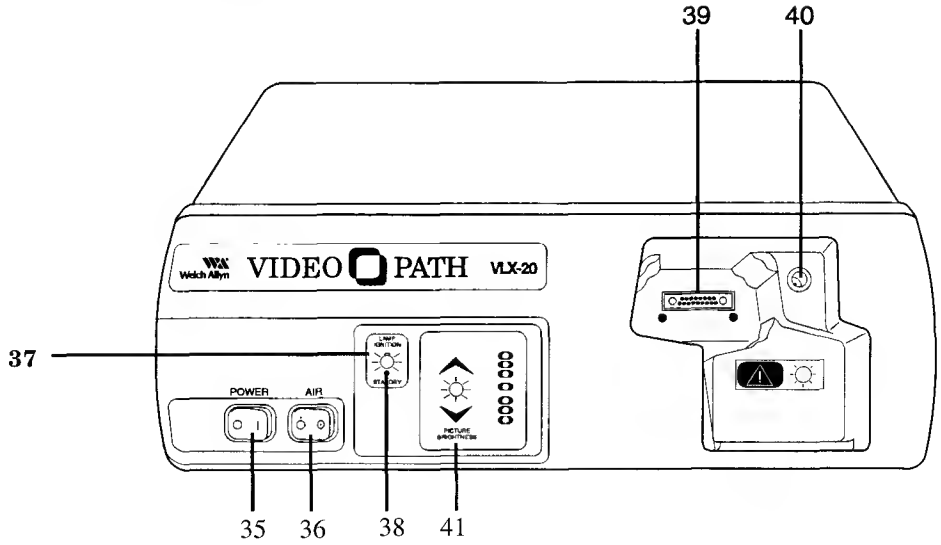


PLEASE REFERENCE YOUR SONY MONITOR MANUAL FOR FURTHER INFORMATION.

Name	Function
22. Power	Press to turn the monitor on. The indicator will light up in green.
23. Volume	No function.
24. Contrast	Turn clockwise to increase contrast and counterclockwise to decrease it.
25. Phase (tint)	Turn clockwise to make the skin tones greenish and counterclockwise to make them purplish.
26. Chroma	Turn clockwise to make the color intensity higher and counterclockwise to make it lower.
27. Bright (brightness)	Turn clockwise for more brightness and counterclockwise for less.
28. Aperture (sharpness)	Turn clockwise for more sharpness and counterclockwise for less.
29. Menu button	On-screen programmable controls of the picture.
30. Degauss button	Press this button momentarily. The screen will be demagnetized. Wait for 10 minutes or more before activating this button again.
31. Input select buttons	Press (light on) to select the program to be monitored. A: For signal fed through the LINE A connector. B: For signal fed through the LINE B connector. C: For signal fed through the LINE C connector. (This is the Y/C (S-Video) input signal.) RGB: For signal fed through the RGB connectors.
32. Power supply cord receptacle	Couples with power cord, which should be plugged into a 110-120 VAC hospital grade outlet (220-240 volt, 50 cycle for international).
33. Line A, line B connectors	Two groups (A and B) of line input connectors for composite video.
34. Line C connector Y/C (S-Video)	High resolution S-Video input.

NOTE: This monitor is shipped with default picture settings. Any change of the on-screen controls may result in poor picture quality.

Light Source (Front View)



35. Main power switch — Primary power control for the Light Source. If not activated, other controls will not function.

36. Air pump switch — **Not applicable to VideoPath Colposcope.**

37. Lamp ignition — Activates the lamps when switch is depressed and main power switch is on.

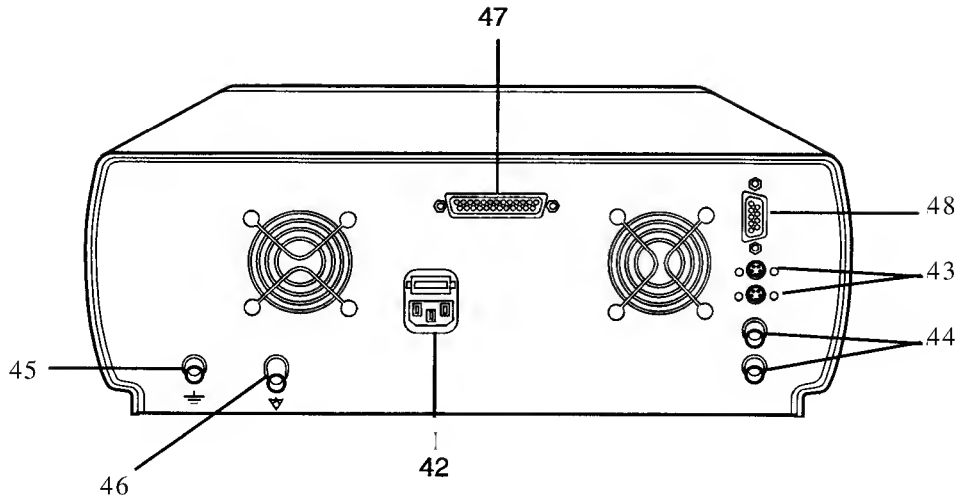
38. Lamp standby indicator — When LED blinks, lamps cannot be ignited even if lamp ignition switch is depressed.

39. Colposcope connector port — Accepts VideoPath Colposcope umbilical plug to transmit light and electrical signals to the colposcope.

40. Air output port — **Not applicable to VideoPath Colposcope.**

41. Picture brightness control — Not applicable to the VideoPath Colposcope.

Light Source (Back View)

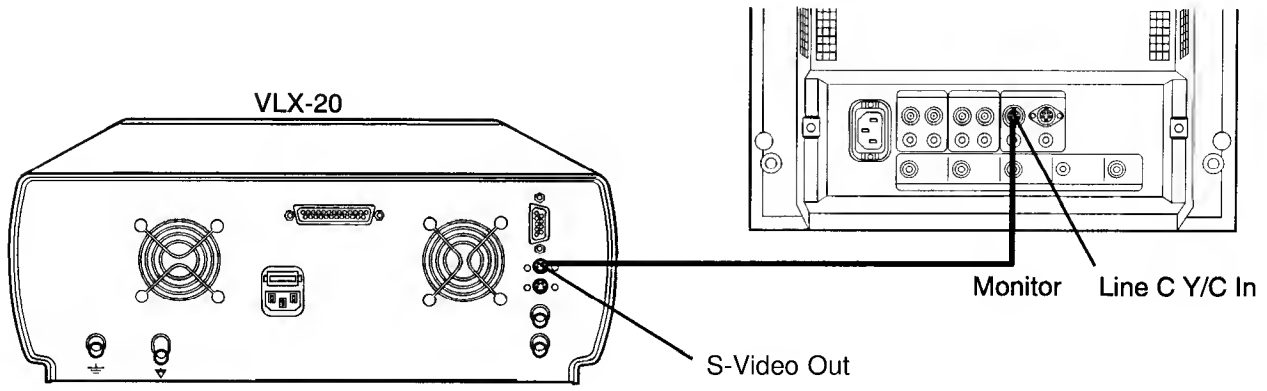


42. Power supply cord receptacle	Couples with power cord, which should be plugged into a 115V hospital-grade outlet.
43. S-Video	Outputs S-Video or Y/C, 4 pin DIN. (Dual connection, VLX 20 only)
44. Composite	Outputs NTSC (composite video), BNC connector. (Not applicable with the VideoPath Colposcope)
45. Earth ground terminal connector	Provides a terminal that is connected to earth ground through the VLX-20 line cord (1/4-36 UNS-2A thread). (VLX 20 only)
46. Equipotentiality terminal connector	Accepts ground connector from electrosurgery equipment to provide a secondary or redundant ground path. (VLX 20 only)
47. RS-232 communication connector port	Communication port for use with video printers. (VLX 20 only)
48. Auxilliary port	No function. Future capability. (VLX 20 only)

Connection Diagrams

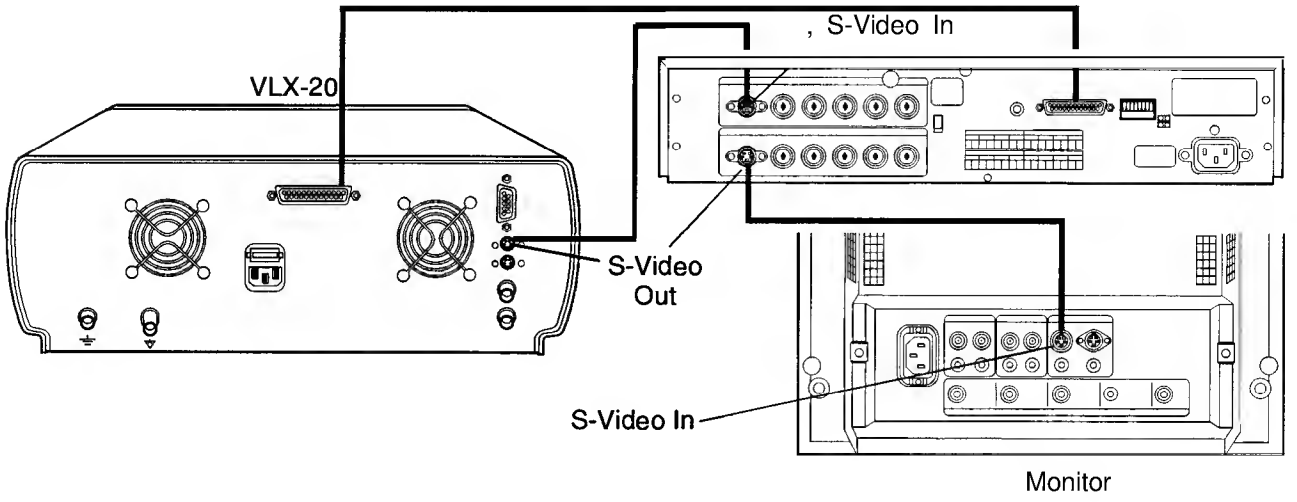
Connecting VideoPath VLX-10/20 Light Source with Monitor

The diagram below illustrates an example of recommended coupling between the VLX-10/20 and a monitor.



Connecting VideoPath VLX-10/20 Light Source with VCR/Video Printer

The diagram below illustrates an example of recommended coupling between the VLX-10/20 and peripheral equipment.

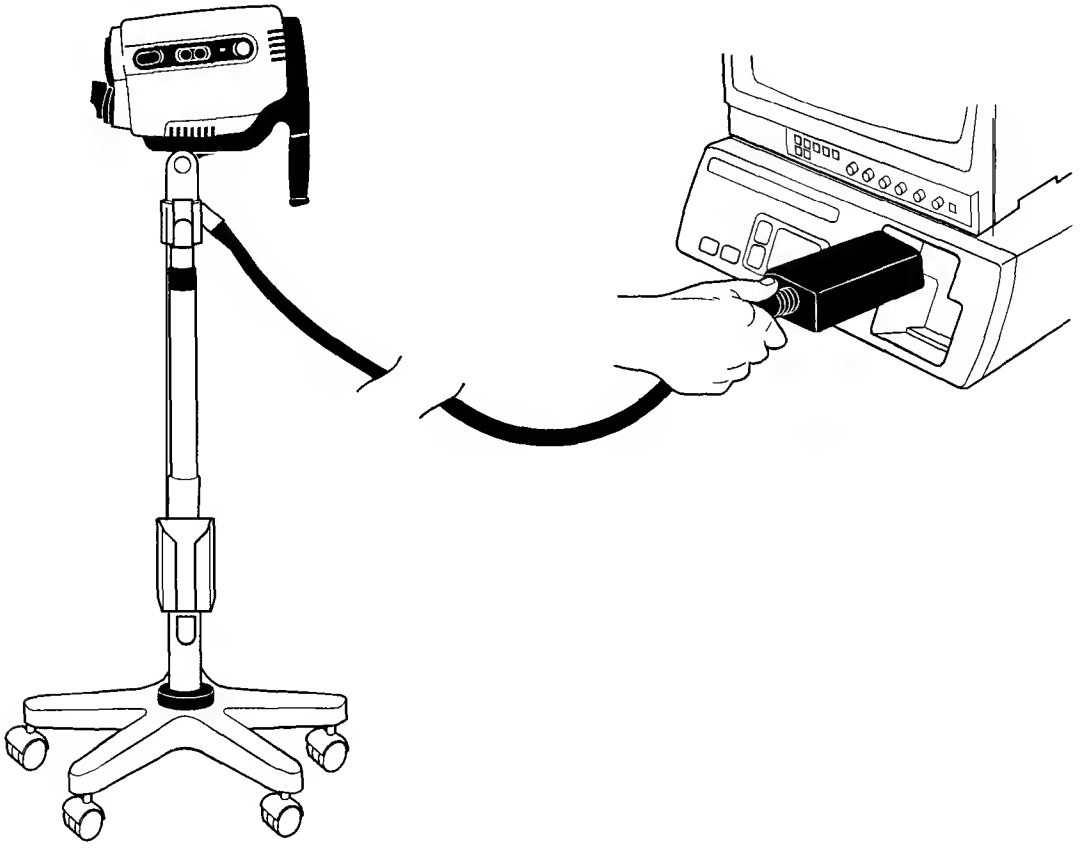


WARNING: All video monitors and peripheral equipment used with this system must be UL-2601 listed to comply with medical electrical safety guidelines. If not UL-2601 listed, the monitor/peripheral equipment should be positioned outside of the 6 foot patient contact area. Please contact Welch Allyn for more information.

NOTE: The RS-232 cable is required for the Function Control Buttons to perform properly.

Connection Diagrams

Connecting the VideoPath Colposcope with Light Source



Preparation For Use

General Precautions

Make sure the unit is always grounded and secure during use. Do not disable power cord ground connection. Grounding reliability is achieved only when power cord is connected to a hospital-grade receptacle. Inspect the electrical plug and cord routinely. Do not use if damaged. Do not use the VideoPath Colposcope in the presence of any flammable anesthetics.

Do not open the VideoPath Colposcope housing. An electrical shock hazard exists due to high voltage. There are no user serviceable parts inside the VideoPath Colposcope.

NOTE: Opening of the VideoPath Colposcope housing by an unauthorized repair facility will void the product warranty.

WARNING: Total system risk current should not exceed 50μA. An isolation transformer is required if the total system risk current exceeds 50μA when accessories are interconnected.

Assembly of VideoPath Colposcope

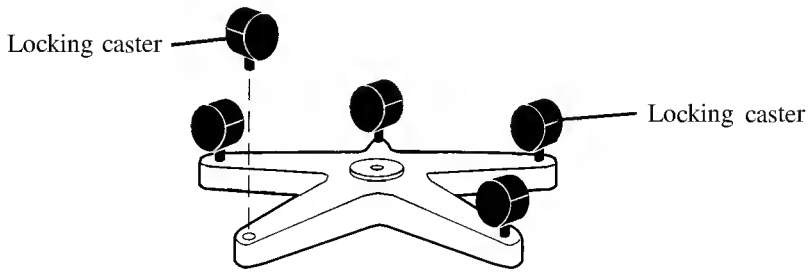
Before initial set up of the VideoPath Colposcope, check all components received against the parts list of components (see Components section of this manual) to verify a complete set. If parts are missing, please notify Welch Allyn. Review the Nomenclature, Preparation for Use, Operation and Maintenance sections to become familiar with the equipment.

Vertical Pole Stand Assembly

The VideoPath Colposcope stand is shipped unassembled. Minimal assembly is required.

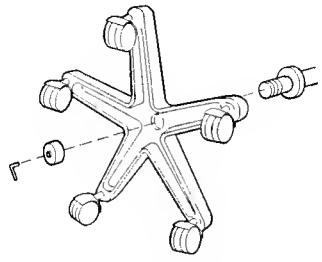
1. To assemble the stand, remove the stand and base parts from their cartons.

2. Place base upside down on the floor and insert casters into holes on the bottom of the base. (Do not place two locking casters next to each other.)



3. Place the base on the floor with casters down. Lock the two locking casters.

4. Place pole in the base and screw the mounting cap onto the end using the enclosed Allen wrench. Be sure to tighten securely. (The assembly may need to be tilted.)



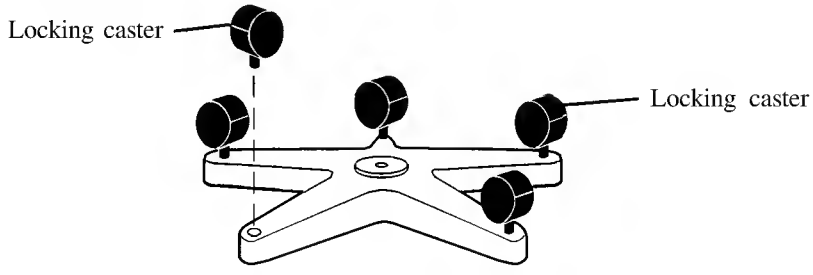
5. Before using the VideoPath Colposcope, refer to "Setting Up VideoPath Colposcope" section of this manual.

Swing Arm Stand Assembly

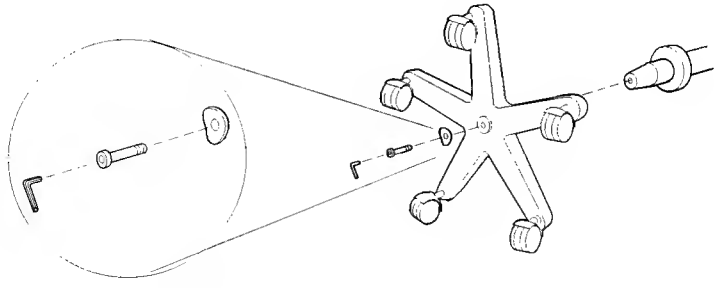
The VideoPath Colposcope stand is shipped unassembled. Minimal assembly is required.

NOTE: Base weighs 58 lbs. Assistance may be required to lift.

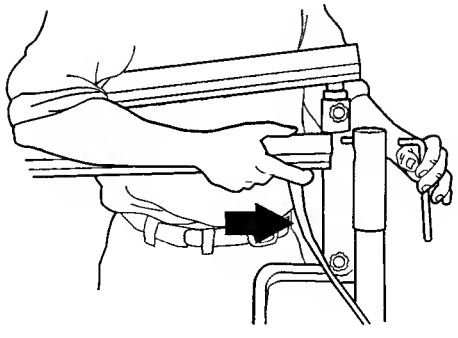
1. To assemble the stand, remove the stand and base parts from the cartons.
2. Place base upside down on the floor and insert casters into holes on the bottom of the base. (Do not place two locking casters next to each other.)



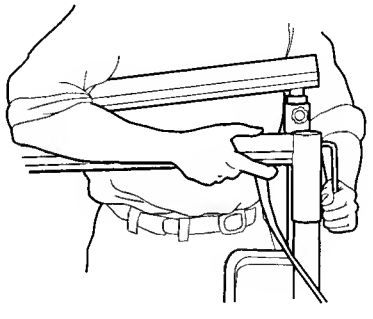
3. Place the base on the floor with casters down. Lock the two locking casters.
4. Place the vertical pole section of the assembly into the base.
5. Locate the packaged mounting washer and bolt.
6. Place the bolt through the washer into the bottom of the pole. (The assembly may need to be tilted.)



7. Tighten securely with the enclosed Allen wrench.
8. Remove the bolt from the arm of the colposcope assembly and insert it through the hole near the top of the pole.
9. Position the pole and the arm of the remaining colposcope assembly in close proximity.



10. Tighten the bolt securely with the enclosed Allen wrench.



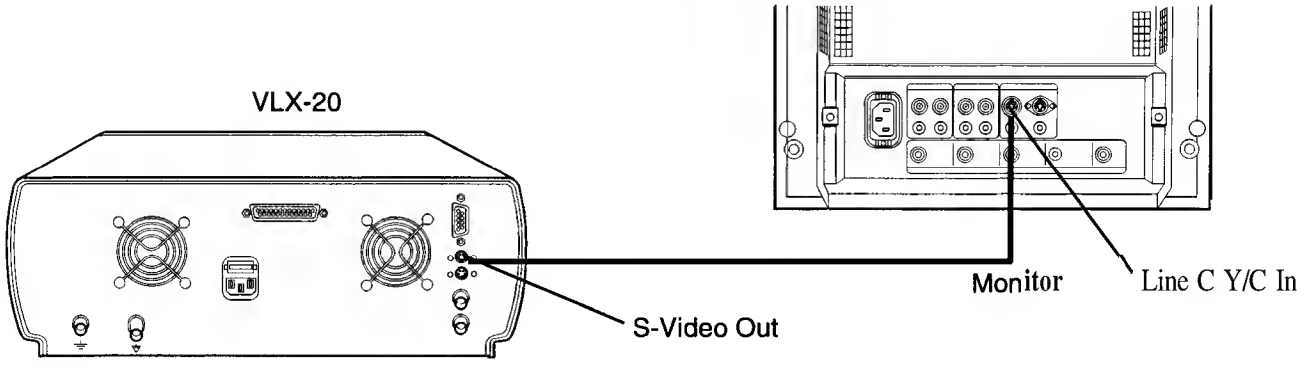
11. Before using the VideoPath Colposcope, refer to "Setting Up VideoPath Colposcope" section of this manual.

Setting Up VideoPath Colposcope

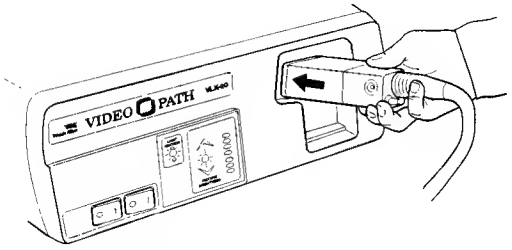
1. Connect the Light Source power cord to the power cord receptacle on the back of the Light Source.

2. Plug the remaining end of the power cord into a properly grounded 110 - 120 volt AC outlet.

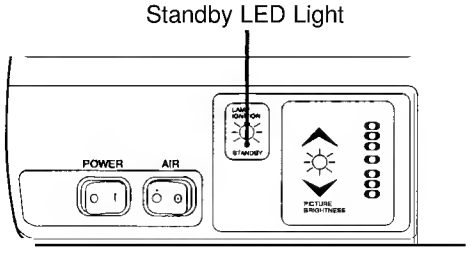
3. Connect the S-Video cable to the S-Video output located on the back of the Light Source and connect the other end of the S-Video cable into the line C connector Y/C (S-Video) on the back of the monitor.



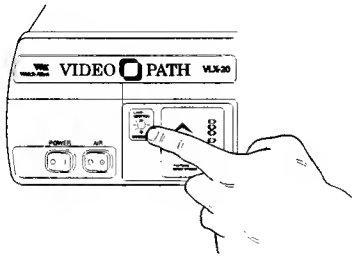
4. Plug the colposcope connector terminal into the connector port of the Light Source. The umbilical plug should fully engage and "click" into place.

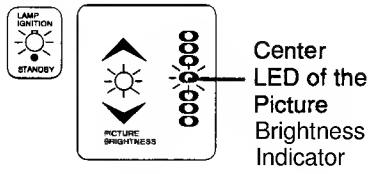


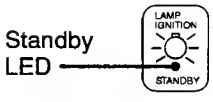
5. Activate the Power switch on the front panel. The green Lamp Ignition/Standby light will blink for approximately 11 seconds.



6. Once the green Lamp Ignition/Standby light remains lit, press the Lamp Ignition Switch. The lamps will ignite and the Lamp Ignition/Standby light will go out. The lamps require 11 seconds to warm up. This length of time will be indicated by the center LED of the Picture Brightness Indicator, which blinks until the lamps reach full intensity. Once the Picture Brightness Indicator remains constant, the lamps are fully warmed up, and the system is ready for use.







NOTE: If the Light Source is powered up without having the VideoPath Colposcope attached, the lamp Standby LED will remain blinking and lamp ignition cannot occur.

WARNING: Once lamps have been lit, do not remove the instrument from the Light Source without turning the main power switch off or putting the lamps on Stand-By by pressing the Lamp Ignition switch. If the VideoPath Colposcope is removed from the Light Source, avoid looking directly into the intense light provided by the Light Source to prevent damage to your eyes.

WARNING: It is essential that the instruction manual for the VLX-20 Light Source be reviewed in detail prior to using the system.

Operation

Power Switch

With the Light Source power cord connected to a properly grounded outlet, the S-Video cable connected to the Light Source and monitor, and lamps activated, activate the power switch on the handle of the VideoPath Colposcope.

Focus and Zoom Controls

Once the power switch has been activated, the VideopPath Colposcope will execute a setup procedure, ending in the low magnification setting, or 4.5x. To obtain coarse focus, position the distal end of the VideoPath Colposcope approximately 300 mm from the target. Adjust the VideoPath Colposcope by moving the stand (for vertical stand), or the arm (for the swing arm stand), until the picture is in focus. Press the + on one of the zoom controls until maximum magnification is obtained, and readjust the position of the stand or the swing arm until the picture is in focus. Fine focus, in either direction, is provided by the focus controls once coarse focus has been achieved. After coarse focus is achieved at maximum magnification, zoom control can be set to a desired lower magnification by pressing either zoom control. Focus will be maintained throughout the entire magnification range once these steps have been completed, if the VideoPath Colposcope or target is not moved.

NOTE: The setup (nominal) setting of the focus controls can be recovered by pressing one of the zoom + controls for 4 seconds after maximum magnification has been achieved.

Green Filter Controls

Activate the electronic green filter by pressing the green button located on either side of the VideoPath Colposcope. Full activation of the green filter occurs in less than 10 seconds. Deactivated the filter by pressing the green filter button again. The green filter LED indicator flashes during activation and deactivation and remains on after activation is complete.

Illumination Beam Director

The illumination beam director can be rotated up to 45" clockwise or counterclockwise to better illuminate the examination area. To rotate the director, grasp the flat sides and twist in either direction as desired. The illumination beam director moves with some resistance. This helps to hold it securely in the desired position. The center position can be recovered by returning the director to the detent position.

Vertical Height Adjustment Ring (Vertical Colposcope Models 88100 & 88110 Only)

The height of the vertical stand can be adjusted by rotating the black height adjustment ring, located on the pole of the stand, counterclockwise. Once the ring has been loosened, adjust the pole to the desired height and then tighten the ring again by rotating it clockwise.

Swing Arm Height Adjustment (Swing Arm Colposcope Models 89100 & 89110 Only)

Adjust the height of the swing arm stand by loosening the height adjustment knob located on the arm of the stand. The swing arm can then be moved to the desired position. After moving the arm, tighten knob securely by rotating clockwise. The desired drag can be obtained by adjusting this knob either clockwise or counterclockwise.

Right or Left Positioning of Swing Arm (Swing Arm Colposcope Models 89100 & 89110 Only)

The swing arm of the VideoPath Colposcope can be positioned to the right or left side of the exam table. To alter the position of the swing arm, pull down the stop pin located under the elbow of the swing arm while rotating the swing arm to the desired side. Release the stop pin once the desired position is achieved.

Positioning VideoPath Colposcope

The VideoPath Colposcope can be angled up and down and left and right. To change the up/down tilt angle, loosen the knob located on the tilt axis. The VideoPath Colposcope can then be tilted as necessary. To change the horizontal angle, loosen the knob located on the support shaft. The drag of either knob can be set by loosening or tightening as necessary.

Remote Video Functions (for VideoPath Colposcope Models 88110 & 89110 Only)

The handle of the VideoPath Colposcope contains three buttons that control three video functions. These functions, provided by a remote video printer, are Freeze, Print and Toggle. (See Connection Diagram section of this manual for connecting the printer to the VideoPath Colposcope.) The VideoPath Colposcope models 88110 and 89110, when used with the VLX-20 Light Source and compatible video printer, have the ability to capture, store and print images. The function controls on the VideoPath Colposcope interface with the system for convenient control of the Freeze, Copy and Video features. The RS-232 cable must be connected from the VLX-20 Light Source.

1. Pressing the freeze ("F") button stores a new image in printer memory. The frozen image is displayed on the monitor.

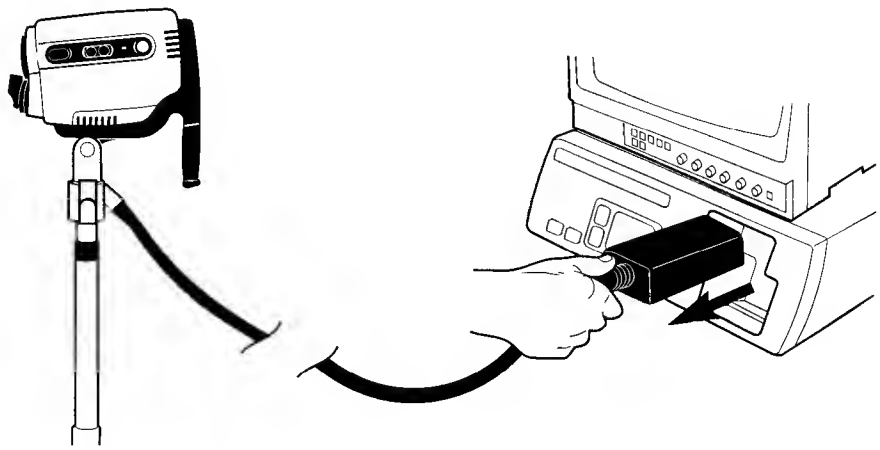
2. Pressing the copy ("C") button prints the image displayed on the monitor. If live video is displayed, the image visible when the button was pressed will be printed.

3. Pressing the video ("V") button changes the display from printer memory (frozen image) to live video, or from live video to printer memory (frozen image), depending on the current mode.

Storage of the VideoPath Colposcope Connector Terminal

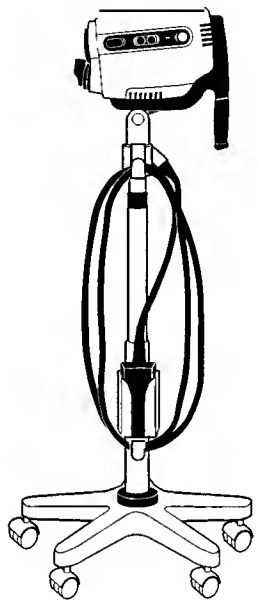
When the VideoPath Colposcope is removed from the Light Source, the colposcope connector terminal should be stored in the receptacle hanger.

1. To properly place the VideoPath Colposcope connector plug in the hanger, remove the plug from the Light Source.



2. Wrap the cord in a loop using the VideoPath Colposcope connector terminal hooks located on the colposcope stand.

3. Place the VideoPath Colposcope connector terminal into the hanger as indicated.



Maintenance

VideoPath Colposcope Cleaning

IMPORTANT

Be careful not to allow solution to drip into the air vents.

DO NOT spray solution into the air vents.

DO NOT sterilize any part of the unit.

DO NOT IMMERSE any part of the unit in cleaning solutions.

Turn the power switch off and unplug the connector terminal cord from the Light Source prior to cleaning.

The VideoPath Colposcope housing and connector terminal cord can be wiped down with a cloth dampened slightly with a mild solution of disinfectant. Be careful not to allow the plug prongs to get wet. Also be careful not to allow the camera lens or lamp lens to get wet.

Disinfecting Solutions

The disinfecting solutions listed below are safe for cleaning the housing of the VideoPath Colposcope if used according to the manufacturer's instructions for cleaning and disinfecting, and in accordance with procedures detailed in the cleaning section of this manual.

- Cidex, Cidex Plus
- 70% isopropyl alcohol
- 10% mild bleach solution
- Metracide
- 10% Wescodyne
- Banicide
- Wavecide-01

NOTE: References to brand names are not endorsements of their efficacy as disinfecting solutions. However, tests have shown these solutions to be compatible with Welch Allyn colposcopes, providing the manufacturers's directions are followed. Do not use any other solutions unless a sample has been sent to Welch Allyn for compatibility testing.

Illumination Lens Cleaning

The lamp lens may be cleaned with a cloth dampened slightly with warm water and mild detergent.

CAUTION: DO NOT clean the illumination olens with alchohol.
DO NOT touch optical or illumination lenses except as described in Maintenance section of this manual.

Camera Lens Cleaning

The camera lens may be cleaned with isopropyl alcohol or any commercial lens cleaner.

Service Information

Customers in North America should return instruments requiring service to the Welch Allyn Technical Service Department listed below, or to an authorized Welch Allyn distributor. The part and serial numbers are located on the VideoPath colposcope connection terminal.

Technical Service Department
Welch Allyn, Inc.
4341 State Street Road
Skaneateles Falls, NY 13153-0220
U.S.A.
Telephone: 800-669-9771
Fax: 315-685-4653

Troubleshooting

Condition	Check	Action
Power does not come on.	Light source's power cord	Make sure proper connection at unit and wall outlet.
	Light source	Make sure lightsource is on.
	Colposcope power switch	Make sure power switch on colposcope is on.
	Light source's lamp housing door	Make sure lamp housing door is properly closed.
	Light source's fuse blown	Remove fuse panel and replace blown fuse with T2.0A-250V.
	Light source's power socket	Plug the power cord into a socket known to work.
No image on monitor.	Monitor/other peripheral devices	Make sure power is on for all devices.
	Cable connections	Make sure all video cables are connected properly. (Use S-video cable only)
	Colposcope	Make sure the colposcope is properly connected. Advance colposcope connector terminal until it clicks into place.
Dim image on monitor.	Lamps	Make sure lamps are ignited.
	Monitor input selection	Make sure correct input selection is made on the monitor front panel.
Lamp will not light. (No illumination)	Colposcope connector terminal	Colposcope connector terminal not properly engaged.
	Light source	Make sure lamp assembly is properly installed. Make sure lamps are not burned out.
Printer does not respond properly to handle buttons. (model #s 88110, 89110)	Power cord and pnnter	Unplug power cord from wall outlet, then plug cord back into outlet. At the same time, turn printer off and then on again.
	Printer	Make sure printer is on and is properly connected.
	RS-232 cable not connected between VLX-20 and video printer	Connect RS-232.
	Video printer not in proper signal input mode	Adjust video printer until proper input mode is selected. (S-video)
	Printer not adjusted to proper baud rate	Set printer to 9600 baud. If changed, turn printer off and then on.
	Check light source to make sure light source is properly connected and on.	

Specifications

Item	Specification	Technical Data
Power requirements	Voltage Frequency Current	115 VAC domestic 50/60 Hz See Light Source manual.
Dimensions	Vertical stand Swing arm stand Optical centerline to swing arm bottom Colposcope HxWxD (excluding handles)	Low: 36.0", high: 46.0" (91.4 cm to 116.8 cm) Low: 29.5", high: 49.5" (74.9 cm to 125.7 cm) 15.0" (38.1 cm) 8.25" x 5.75" x 3.37" (21.0 cm x 14.6 cm x 8.6 cm)
Weight	Vertical stand Swing arm stand	29 lbs (13.2 kg) 84 lbs (38.1 kg)
Focal length	300 mm	
Magnification	4.5x - 25x (typ.)	
Field of view	66 mm - 14 mm	
Depth of field	112mm - 5mm	
Operating environment	Ambient temperature Relative humidity Atmospheric pressure	50° F to 104° F (+10°) C to +40° C) 95% max 70kPa to 110kPa
Light Source Illumination	Lamp type Lamp life Brightness adjustment Lamp Lamp voltage	Dual 21 Watt metal halide arc 750 hrs 1 hr per start Automatic electronic shutter (camera) Welch Allyn part no. 04060 60 Volts

Specifications

Item	Specification	Technical Data
Cooling method	Forced air via fan (Light source)	
Color system	Color mosaic CCD	
Video output	Y/C (S-Video)	
Transport/Storage environment	Ambient temperature Relative Humidity	45° F (-40° C) to 122° F (+50° C) 95% max
Output devices	VCR Monitor Thermal or video printer	
Compliance	Listed Complies Explosion proofing	UL2601-1 CAN/CSA C22.2 No. 601.1 Use with potentially flammable surroundings is prohibited.
Fuses	See applicable light source	
Classification	Electro medical equipment Degree of Protection against electrical shock	Class I equipment Type B (light source)
Patents	This product is covered by the following patents: 5,083,059; 5,117,154; 5,138,228; 5,144,201; 5,291,100. Patents pending.	

Welch Allyn™

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1-800-535-6663

Part No. 881014
Rev. A